

FEEDING HABITS OF THE GREEN HERON IN MAURITIUS

This note records observations on hunting methods, success and feeding rates of the Green Heron *Butorides striatus*, in Mauritius, Indian Ocean, between 15 and 25 October 1993. Most observations were made at Grand Gaube on the north coast, where the shore is mainly lava rocks and sand interspersed, at low tide, with shallow pools; some stretches were simply sand beaches with no rocks. Additional observations were made at the Terre Rouge estuary on the west coast. This consisted of mud flats and banks, much disturbed at low tide by people digging for worms. Much of the water was shallow enough for the herons to wade in; one favoured section was covered by algae or weed. I watched herons hunting, as opportunity offered, and recorded the methods used, the number of strikes for food made in timed periods and their success rates. I estimated the size of captured prey by reference to the bill length of the herons. At Grand Gaube I watched herons down to about 30 m, but at Terre Rouge they were not so accessible and I watched them through a telescope at ranges of up to about 150 m.

At Grand Gaube the herons hunted solitarily and did not appear to defend feeding areas. I only once saw a case of aggression when one flew at and drove off another. At Terre Rouge, many hunted solitarily, but I saw a group of three no more than 10 m apart from one another on a rock and another group of five, similarly close to one another, hunting in water. Some individuals flew upwards of $\frac{3}{4}$ km from one feeding spot to another. Feeding was observed throughout daylight hours with a tendency for greater activity at low tide, as reported in the Seychelles by Hancock & Elliott (1978, *Herons of the World*).

Two principal hunting methods were observed and these were consistent with those described by Meyerriecks (1960, *Publ. Nuttall Orn. Cl.* 2: 1-158). At Terre Rouge the herons adopted the stand and wait method, standing for long periods in shallow water waiting for prey to approach. At Grand Gaube the usual method was to walk through shallow pools at the edge of the shore actively searching for prey. Both Meyerriecks and Hancock & Elliott refer only to slow walking, but some herons were remarkably active, rushing from one spot to another as they hunted. In a variant of the stand and wait method (also described by Meyerriecks) seen occasionally at Grand Gaube, a heron would walk or fly from rock to rock and briefly stand and wait for prey to come within reach in the surrounding water. The only prey seen was fish. At Grand Gaube shoals of small fish up to about 40 mm long were extremely abundant, frequently coming so close to the water's edge as to be in danger of stranding. These were the principal prey. I was unable to see what was caught at Terre Rouge.

Table 1 summarises data on strikes for food and reveals that, whatever hunting method was used, about half the strikes were successful. Strike rates differed considerably according to the method of hunting adopted. The two most successful 'stalkers' made six successful strikes in two minutes and 19 in five minutes respectively

TABLE 1

Hunting methods and strike rates of Green Herons *Butorides striatus*, Mauritius, October 1993

Locality Method	Grand Gaube		Terre Rouge
	stalking	standing on rocks	standing in water
No. of birds observed	8	3	5
Total time of observations (mins.)	85	58	42
No. of strikes	94	5	2
Outcome of strikes			
successful	50	2	1
unknown	5	1	—
unsuccessful	39	2	1
Mins. per strike	0.9	11.6	21
Mins. per successful strike	1.7	29	42

whereas a group of five 'standing and waiting' at Terre Rouge made, between them, only one successful strike in 42 bird/minutes. Given the great abundance of prey at Grand Gaube, the high rate of capture is not unexpected. The much lower strike rate at Terre Rouge is surprising as the concentration of hunting herons suggested this was a favoured area.

The size of 47 prey items was recorded; 40 of these were estimated to be less than one quarter of the heron's bill length, five less than half the bill length, one greater than half and one about one and a half times the bill length. Brown *et al.* (1982, *Birds of Africa*, vol. 1) give the range of bill length for this species as 55–65 mm, and Cramp & Simmons (1977, *Birds of the Western Palearctic*, vol. 1) give a mean length of 60.7 mm for the African race *atricapillus*. These suggest that the bulk of the fish caught were less than 15 mm long and the largest about 90 mm. Most small prey was swallowed immediately but larger items usually mandibulated for a few seconds before being swallowed. The largest fish seen to be captured was carried away from the water as soon as it was caught and, although apparently dead within a few minutes of capture, was mandibulated constantly for 14 minutes before being swallowed.

I have not traced any references to size of prey or rates of hunting with which to compare these observations, but the sharply differing hunting rates seem worthy of note, as does the concentration of hunting birds at Terre Rouge in a species widely reported to hunt solitarily (e.g. Hancock & Elliott). Capture of prey large enough to take time to swallow may not be unusual as I have seen Grey Herons *Ardea cinerea* in Europe capture proportionately large prey which took some time to kill and swallow.

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